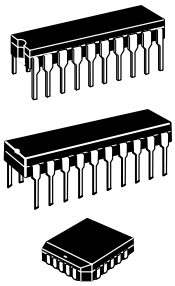
Quad Bus Driver/Receiver with Transmit and Receiver Latches

MC10H334

The MC10H334 is a Quad Bus Driver/Receiver with transmit and receiver latches. When disabled, (OE = high) the bus outputs will fall to –2.0 V. Data to be transmitted or received is passed through its respective latch when the respective latch enable (DLE and RLE) is at a low level. Information is latched on the positive transition of DLE and RLE. The parameters specified are with 25 Ω loading on the bus drivers and 50 Ω loads on the receivers.

- Propagation Delay, 1.6 ns Typical Data–to–Output
- Improved Noise Margin 150 mV (Over Operating Voltage and Temperature Range)
- Voltage Compensated
- MECL 10K–Compatible



L SUFFIX
CERAMIC PACKAGE
CASE 732–03

P SUFFIX
PLASTIC PACKAGE
CASE 738–03

FN SUFFIX
PLCC
CASE 775–02

MAXIMUM RATINGS

Characteristic	Symbol	Rating	Unit
Power Supply (V_{CC} = 0)	V_{EE}	–8.0 to 0	Vdc
Input Voltage (V_{CC} = 0)	V_I	0 to V_{EE}	Vdc
Output Current — Continuous — Surge	I_{out}	50 100	mA
Operating Temperature Range	T_A	0 to +75	°C
Storage Temperature Range — Plastic — Ceramic	T_{stg}	–55 to +150 –55 to +165	°C °C

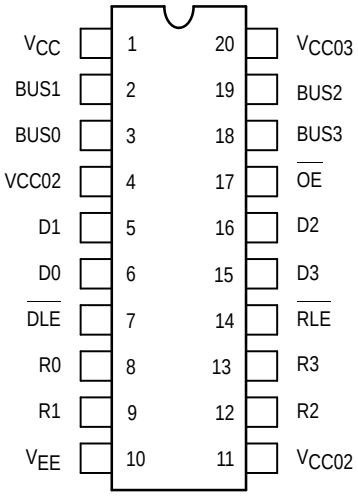
ELECTRICAL CHARACTERISTICS (V_{EE} = –5.2 V ±5%) (See Note)

		0°		25°		75°		
Characteristic	Symbol	Min	Max	Min	Max	Min	Max	Unit
Power Supply Current	I_E	—	161	—	161	—	161	mA
Input Current High Pins 5,6,15,16 Pins 7,14 Pin 17	I_{inH}	 — — —	 397 460 520	 — — —	 273 297 357	 — — —	 273 297 357	µA
Input Current Low	I_{inL}	0.5	—	0.5	—	0.3	—	µA
High Output Voltage	V_{OH}	–1.02	–0.84	–0.98	–0.81	–0.92	–0.735	Vdc
Low Output Voltage	V_{OL}	–1.95	–1.63	–1.95	–1.63	–1.95	–1.60	Vdc
High Input Voltage	V_{IH}	–1.17	–0.84	–1.13	–0.81	–1.07	–0.735	Vdc
Low Input Voltage	V_{IL}	–1.95	–1.48	–1.95	–1.48	–1.95	–1.45	Vdc

AC PARAMETERS

Propagation Delay Data–to–Bus Output DLE–to–Bus Output OE–to–Bus Output Bus–to–R0 RLE–to–R0 Data–to–Receiver R0	t_{pd}	 0.5 1.0 0.5 0.5 0.5 1.0	 2.5 2.7 2.5 1.9 2.1 3.8	 0.5 1.0 0.5 0.5 0.5 1.0	 2.5 2.7 2.5 1.9 2.1 3.8	 0.5 1.0 0.5 0.5 0.5 1.0	 2.5 2.7 2.5 1.9 2.1 3.8	ns
Rise Time	t_r	0.5	2.2	0.5	2.2	0.5	2.2	ns
Fall Time	t_f	0.5	2.2	0.5	2.2	0.5	2.2	ns

DIP & PLCC PIN ASSIGNMENT

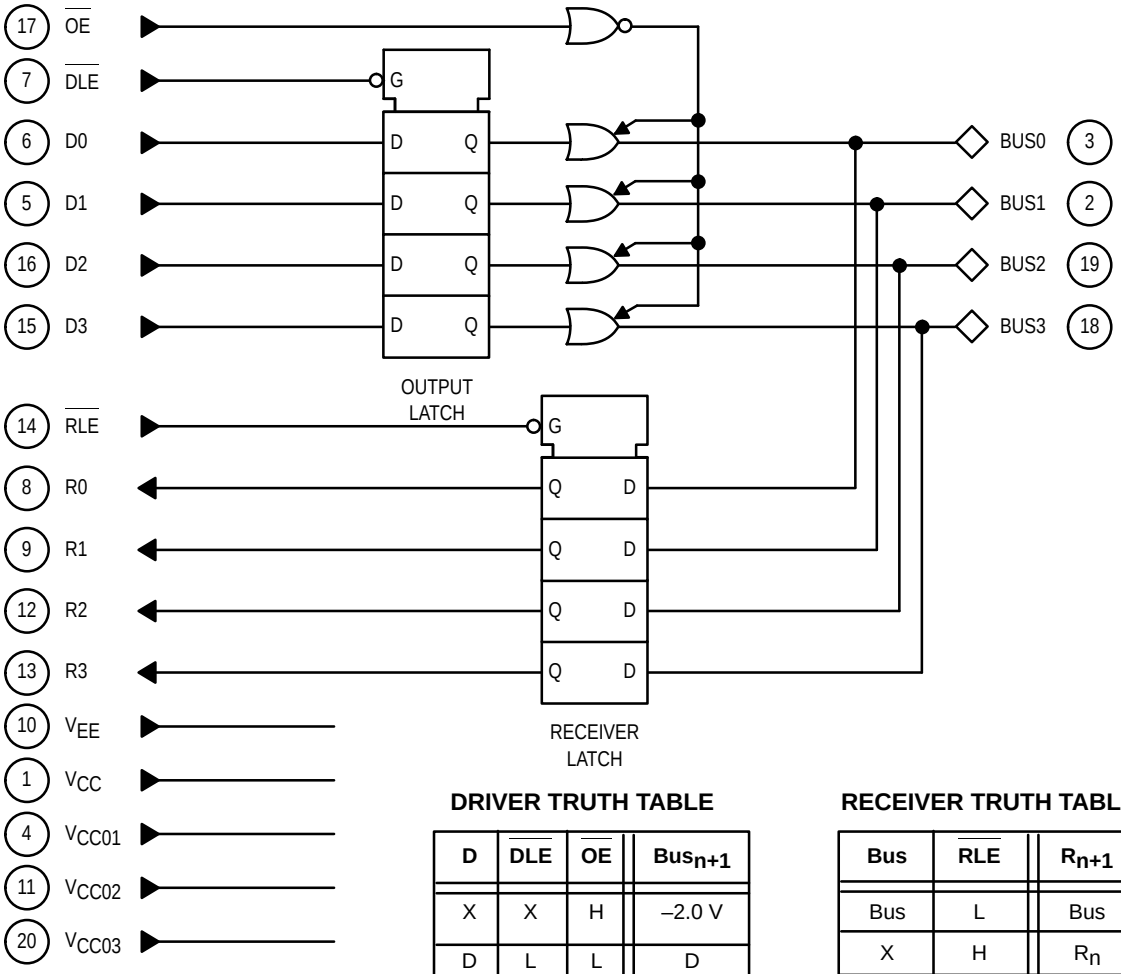


Pin assignment is for Dual–in–Line Package. For PLCC pin assignment, see the Pin Conversion Tables on page 6–11 of the Motorola MECL Data Book (DL122/D).

NOTE:
Each MECL 10H series circuit has been designed to meet the dc specifications shown in the test table, after thermal equilibrium has been established. The circuit is in a test socket or mounted on a printed circuit board and transverse air flow greater than 500 lfpm is maintained. Receiver outputs are terminated through a 50–ohm resistor to –2.0 volts dc. Bus outputs are terminated through a 25–ohm resistor to –2.0 volts dc.

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LOGIC DIAGRAM



DRIVER TRUTH TABLE

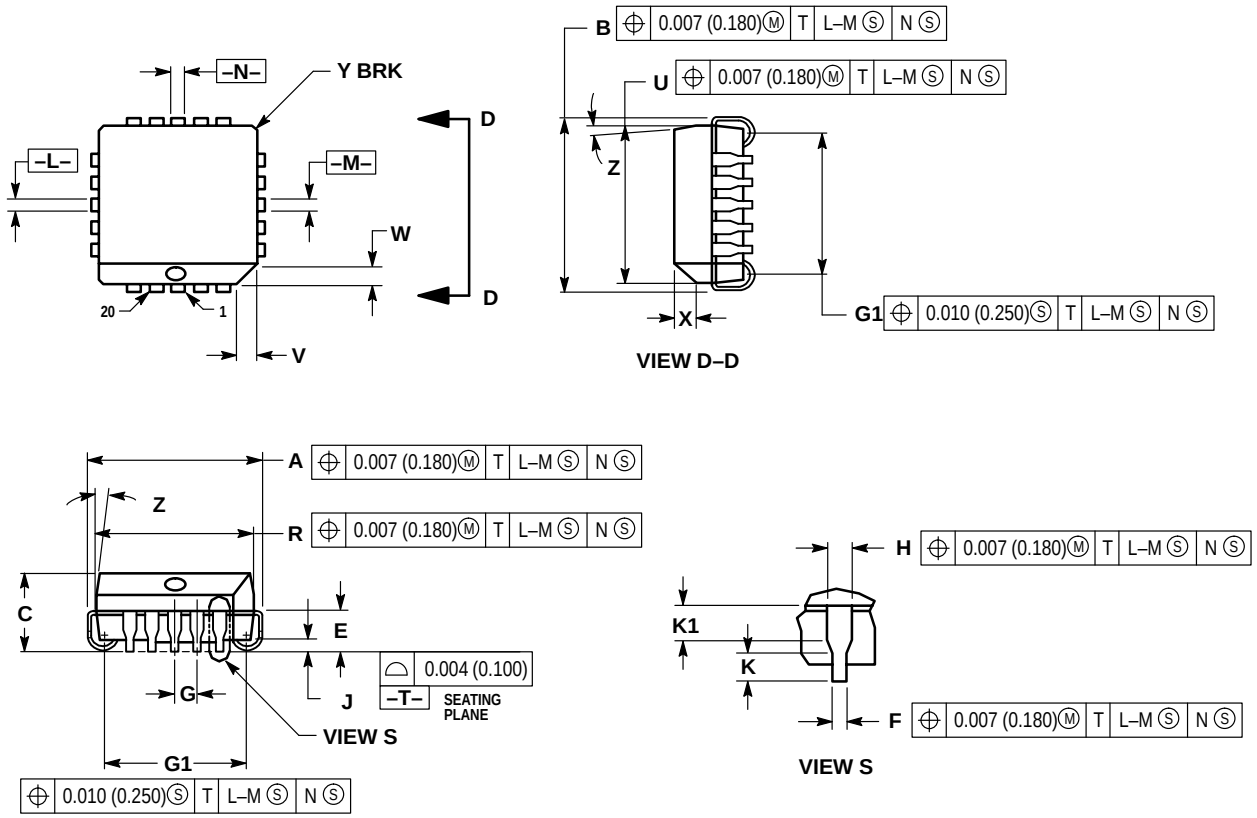
D	$\overline{DLE}$	$\overline{OE}$	Bus_{n+1}
X	X	H	–2.0 V
D	L	L	D
X	H	L	Bus_n

RECEIVER TRUTH TABLE

Bus	$\overline{RLE}$	R_{n+1}
Bus	L	Bus
X	H	R_n

OUTLINE DIMENSIONS

FN SUFFIX
PLASTIC PLCC PACKAGE
CASE 775–02
ISSUE C

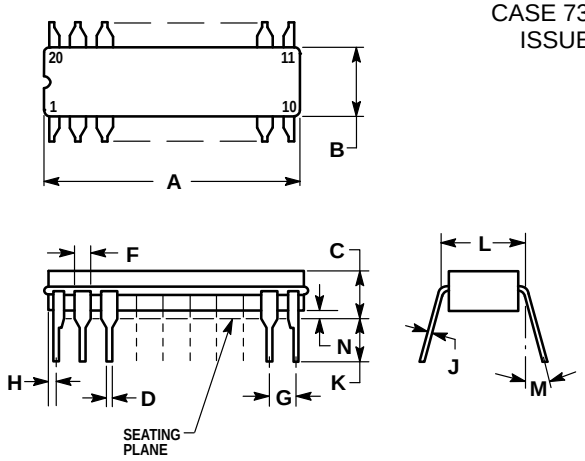


NOTES:
1. DATUMS –L–, –M–, AND –N– DETERMINED WHERE TOP OF LEAD SHOULDER EXITS PLASTIC BODY AT MOLD PARTING LINE.
2. DIMENSION G1, TRUE POSITION TO BE MEASURED AT DATUM –T–, SEATING PLANE.
3. DIMENSIONS R AND U DO NOT INCLUDE MOLD FLASH. ALLOWABLE MOLD FLASH IS 0.010 (0.250) PER SIDE.
4. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
5. CONTROLLING DIMENSION: INCH.
6. THE PACKAGE TOP MAY BE SMALLER THAN THE PACKAGE BOTTOM BY UP TO 0.012 (0.300). DIMENSIONS R AND U ARE DETERMINED AT THE OUTERMOST EXTREMES OF THE PLASTIC BODY EXCLUSIVE OF MOLD FLASH, TIE BAR BURRS, GATE BURRS AND INTERLEAD FLASH, BUT INCLUDING ANY MISMATCH BETWEEN THE TOP AND BOTTOM OF THE PLASTIC BODY.
7. DIMENSION H DOES NOT INCLUDE DAMBAR PROTRUSION OR INTRUSION. THE DAMBAR PROTRUSION(S) SHALL NOT CAUSE THE H DIMENSION TO BE GREATER THAN 0.037 (0.940). THE DAMBAR INTRUSION(S) SHALL NOT CAUSE THE H DIMENSION TO BE SMALLER THAN 0.025 (0.635).

	INCHES		MILLIMETERS	
DIM	MIN	MAX	MIN	MAX
A	0.385	0.395	9.78	10.03
B	0.385	0.395	9.78	10.03
C	0.165	0.180	4.20	4.57
E	0.090	0.110	2.29	2.79
F	0.013	0.019	0.33	0.48
G	0.050 BSC		1.27 BSC	
H	0.026	0.032	0.66	0.81
J	0.020	—	0.51	—
K	0.025	—	0.64	—
R	0.350	0.356	8.89	9.04
U	0.350	0.356	8.89	9.04
V	0.042	0.048	1.07	1.21
W	0.042	0.048	1.07	1.21
X	0.042	0.056	1.07	1.42
Y	—	0.020	—	0.50
Z	2 °	10 °	2 °	10 °
G1	0.310	0.330	7.88	8.38
K1	0.040	—	1.02	—

OUTLINE DIMENSIONS

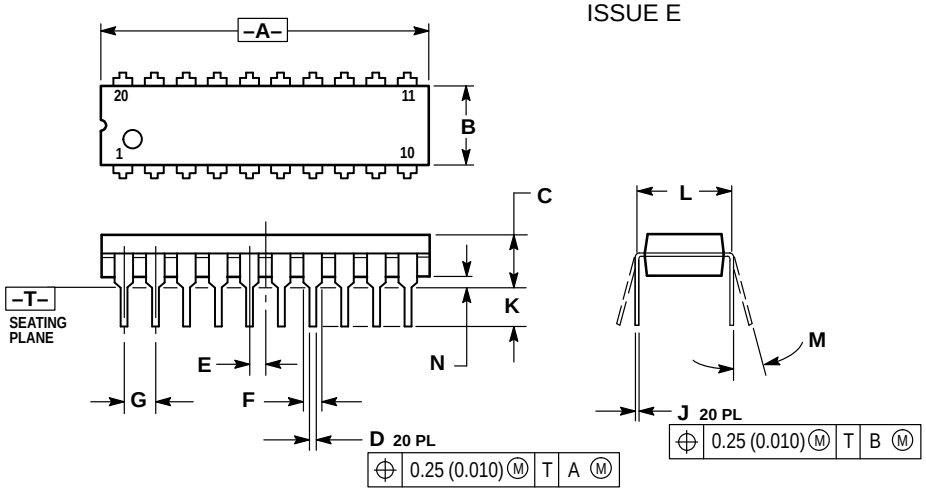
L SUFFIX
CERAMIC DIP PACKAGE
CASE 732–03
ISSUE E



NOTES:
1. LEADS WITHIN 0.010 DIAMETER, TRUE POSITION AT SEATING PLANE, AT MAXIMUM MATERIAL CONDITION.
2. DIMENSION L TO CENTER OF LEADS WHEN FORMED PARALLEL.
3. DIMENSIONS A AND B INCLUDE MENISCUS.

	INCHES	
DIM	MIN	MAX
A	0.940	0.990
B	0.260	0.295
C	0.150	0.200
D	0.015	0.022
F	0.055	0.065
G	0.100 BSC	
H	0.020	0.050
J	0.008	0.012
K	0.125	0.160
L	0.300 BSC	
M	0°	15°
N	0.010	0.040

P SUFFIX
PLASTIC DIP PACKAGE
CASE 738–03
ISSUE E



NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. DIMENSION L TO CENTER OF LEAD WHEN FORMED PARALLEL.
4. DIMENSION B DOES NOT INCLUDE MOLD FLASH.

	INCHES		MILLIMETERS	
DIM	MIN	MAX	MIN	MAX
A	1.010	1.070	25.66	27.17
B	0.240	0.260	6.10	6.60
C	0.150	0.180	3.81	4.57
D	0.015	0.022	0.39	0.55
E	0.050 BSC		1.27 BSC	
F	0.050	0.070	1.27	1.77
G	0.100 BSC		2.54 BSC	
J	0.008	0.015	0.21	0.38
K	0.110	0.140	2.80	3.55
L	0.300 BSC		7.62 BSC	
M	0°	15°	0°	15°
N	0.020	0.040	0.51	1.01

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